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September 15, 2017

Ex Parte

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard, GN Docket No. 16-142

Dear Ms. Dortch:

Ericsson has examined the *ex parte* letter and included analysis entitled "Complications Associated With ATSC 3.0 Implementation In Mobile Devices" filed by T-Mobile on September 11, 2017, in the above referenced docket ("T-Mobile Analysis"). Ericsson is a world leader in communications technology offering innovative solutions and services to customers in 180 countries. Ericsson engineers agree with the T-Mobile Analysis and offer these additional comments regarding the challenges that an ATSC 3.0 technology mandate would introduce into mobile handsets.

In addition to the challenges of implementing an antenna in end user devices as described in the T-Mobile Analysis, we note that the television broadcast network is typically planned with site-to-site distances that rely on outdoor roof-mounted directional antennas. Those antennas provide a 20-30 dB signal gain when compared to the gain of a mobile handset located in an indoor environment. As a practical matter, that comparable gain cannot be overcome even with an exceptional antenna in the mobile device, greatly limiting the utility that an ATSC 3.0 mandate would presumably seek to achieve.

There exist today multiple options for the receipt of linear and on-demand mobile content on mobile phones, and a mandate to include ATSC 3.0 in mobile phones will provide little, if any, benefit to consumers while the cost of doing so, as outlined in page 6 of T-Mobile's analysis, is quite high. In a white paper analyzing the potential use of a multicast service, Ericsson concluded that it is more spectrally efficient to deliver two separate video streams—one for fixed televisions and one for mobile devices—than it is to deliver a less efficient, and compromised, video stream to both.[1]

As T-Mobile notes, adding ATSC 3.0 reception capability to mobile handsets is a complex task. It is not nearly as simple as just adding a new chip to a mobile device. It will affect the cost and size of mobile devices and due to the technological trade-offs involved will reduce the

[1] *See Video over LTE: Exploring Efficiency in Distribution* (2014), available at http://digital-library.theiet.org/content/conferences/10.1049/ib.2014.0044.

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performance of the mobile device. The Commission has stated that it prefers the voluntary adoption of the ATSC 3.0 standard.[2] We hope it continues in this direction and therefore request that it seek more analysis for the record if it determines to reverse this policy in favor of a regulatory mandate dictating the functionalities of mobile handsets.

Respectfully submitted,

/s/ Jared M. Carlson
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[2] *Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard,* GN Docket No. 16-142, *Notice of Proposed Rulemaking*, 32 FCC Rcd 1670, 1671 ¶ 2 (2017) ("We propose to authorize voluntary use of ATSC 3.0 transmissions and to incorporate by reference the relevant portions of the ATSC 3.0 standard into our rules.").

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